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## Changes in the External Research Program Announcement for 1999

### Section III. Anticipated Funds

The Congress authorized (not appropriated) \$8 million for grants in FY 1998. However, only \$6 million is available for FY 1999.

### Section V. Research Priorities for Fiscal Year 1999

- Research Priorities are substantially changed from FY 1998 and are in a new format. Please read them carefully.

### Section VI. Collaborative Proposals. Please note the conditions for Collaborative Proposals.

- Please read the instruction concerning what constitutes a collaborative proposal.
- Each collaborator must submit a complete proposal.

### Section VII. Multi-year Project Periods.

- This section has been changed to reflect a **major policy change** by the Earthquake Hazards Program.
- The intent of the External Research Program is to eventually fund all acceptable proposals for two years. Beginning in FY 1999 we intend to fund a majority of the acceptable proposals for two years and applicants are strongly encouraged to write their proposals accordingly.

### Section X. Unsuitable Proposals

- Subsection A. The words “or establishing Data Centers” have been added.

### Section XI. Application Instructions.

- We urge you to preregister your proposal with the Office of Acquisition and Federal Assistance for NEHRP through our Internet site (<http://www.usgs.gov/contracts/nehrrp/>). Preregistration provides us with critical information and will give you the reference number for your proposal if you need to contact us concerning it. Include a copy of the preregistration page with your proposal.
- If you preregister your proposal the Proposal Information Summary and the 7 additional copies of it plus the Budget Summary and Proposal Abstract are not required.
- Lists of previously supported projects are located on the External Research Program Web Page (<http://erp-web.er.usgs.gov>) or from the USGS Fax-on-demand system. (see Section XI for information).

### Section XII. Application Preparation Instructions

- New budget item. **Radiocarbon Dating.** Do not include radiocarbon dating under “Services or Consultants”.

### Section XIII. Evaluation of Applications.

- Mail reviews are no longer solicited owing to the response rate of about 50 percent of which many were of a perfunctory nature.
- The size of the review panels has been increased to allow for more representation and expertise with the abandonment of the mail reviews

### Section XVI. Award Terms And Conditions

- Special Terms and Conditions are not part of the formal announcement. These documents are pertinent only to funded proposals. You may examine these documents which are available on the Office of Acquisition and Federal Assistance Web Page (<http://www.usgs.gov/contracts/nehrrp/>) or from the USGS Fax-on-demand system. See section XVI for instruction on obtaining these documents). **Please note that all reports are now required in hard copy and in digital form including all figures, photographs and maps in their original digital format.**
- New section: **No-cost Extensions to the Project Period**
- New Section: **Supplementary Funds**

## ANNOUNCEMENT 1434-HQ-99-PA-00061

### I. Application Closing Date and Time

April 7, 1998, 4:00 pm (See paragraphs II.A.2.a. and II.B.3.)

### II. Application Delivery Instructions

#### A. Applications delivered by mail.

1. The applicant should use the following address:

U.S. Geological Survey  
Office of Acquisition and Federal Assistance--MS 205A  
12201 Sunrise Valley Drive  
Reston VA 20192

**Note:** 20192 is the correct zip code for the USGS. Do not allow express mail companies to change the zip code.

2. a. An application received by the Office of Acquisition and Federal Assistance after the closing date will not be considered unless it was sent by at least first-class mail no later than 5 calendar days before the closing date or was sent by first-class mail and it was determined by the USGS that late receipt was due solely to mishandling after receipt at the USGS.  
b. Proof of mailing consists of a legibly dated U.S. Postal Service (USPS) postmark; a legible mail receipt with the date of mailing stamped by the USPS; or a dated shipping label, invoice, or receipt from a commercial carrier. A private metered postmark will not be considered as proof of mailing.

**Note:** The USPS does not always provide a dated postmark. Before relying on this method, the applicant should check with the local post office.

3. An application that does not meet the mailing requirements above will be returned to the applicant.

#### B. Applications delivered by hand.

1. An application that is hand delivered shall be taken to the USGS, Office of Acquisition and Federal Assistance, room 6A331, 12201 Sunrise Valley Drive, Reston, VA.
2. The Office of Acquisition and Federal Assistance will accept hand delivered applications between 8 a.m. and 4 p.m. daily, except Saturdays, Sundays, and Federal holidays.
3. An application that is hand delivered will not be accepted by the Office of Acquisition and Federal Assistance after 4 p.m. on the closing date.

### III. Funds

- A. Approximately \$6.0 million will be available for support of about 115 projects in fiscal year (FY) 1999. This estimate does not bind the USGS to a specified number of awards or to the amount of any award unless that amount is specified by statute or regulation. FY 1999 funds are not presently available for this program. All projects must propose start dates between November 1, 1998 and September 30, 1999. About 20% of the proposals, selected for funding in FY 1999, will be awarded each month beginning November 1, 1998.

### IV. Application Requirements

- A. The majority, 51% or more, of research activities must be conducted by the Applicant. The Applicant must retain administrative and technical control of project activities.

- B. Applications submitted by foreign organizations should be submitted in English and in U.S. dollars. Awards involving foreign governments may require additional coordination and approval by the U.S. Department of State.
- C. The Metric Conversion Act of 1975, as amended by the Omnibus Trade and Competitiveness Act of 1988 (Public Law 100-418), states a policy preference for the use of the metric system of measurements, except where the use of the system is impractical or likely to cause significant ineffectiveness in the accomplishment of Federally-funded activities. Accordingly, it is the National policy to encourage Recipients of Federally-funded grants and cooperative agreements to use the metric system of measurements in their grant related activities. Recipients and sub-recipients of Federal funds are encouraged to take similar appropriate affirmative actions to use the metric system of measurements.
- D. Proposals for geologic investigations shall be clearly oriented toward earthquake hazard assessment. The program Research Emphasis and priorities are described elsewhere in this document (See Attachment A).
- E. Proposals to fund research in foreign countries will be considered when the research will provide knowledge or new techniques transferable to a U.S. seismogenic zone.
- F. Proposals for foreign research must be based on cooperation with scientific groups in the host countries, with host country personnel being used for operational functions, and host countries providing financial support for such personnel. Proposals for cooperative efforts with agencies of foreign governments may be subject to additional approvals within the U.S. Government.

**V. Research Emphasis and Priorities:** See Attachment A.

**VI. Collaborative Proposals.**

Collaborative proposals are strongly encouraged. Two types of collaborative proposals are possible: Collaboration between two or more external organizations that are seeking funding from the USGS/NEHRP External Research Program, and collaboration between an external organization seeking funding from the USGS/NEHRP External Research Program and a USGS/NEHRP internal project. Collaborative proposals between an external organization and a USGS/NEHRP project are subject to being funded as a cooperative agreement owing to the involvement of the USGS in the work. USGS personnel are prohibited from helping an external organization prepare its proposal for competitive funding. All other proposals will be funded as grants.

Collaborative proposals are defined as work proposed by two or more separate institutions or organizations in which the individual organizations will accept responsibility for a specific part of the work proposed and the institution accepts financial responsibility for administering the grant. Collaborative proposals are not instances where persons from a second organization are hired as consultants or other contractual agreements to conduct work on behalf of the grantee.

Questions about technical portions of a collaborative proposal should be directed to:

Dr. John D. Sims  
 (703) 648-6722 (Voice)  
 (703) 648-6642 (FAX)  
 jsims@usgs.gov

- A. A separate proposal must be submitted from each external organization involved in collaborative studies. Proposals must clearly define which tasks will be performed by which organization, and the budget must clearly reflect the tasks and responsibilities of each organization.
- B. Collaborative proposals must be clearly identified in the proposal title. The application title shall read **"Proposal Title: Collaborative Research with First Institution name, and Second Institution name."**

- C. USGS NEHRP External Research reserves the right to fund either part or all of the Applicants involved in a collaborative study.
- D. In the case of collaborative proposals involving external organizations and USGS scientists, separate proposals must be submitted to the external and internal peer review panels respectively. The internal and external components of a collaborative proposal must be severable. The USGS/ NEHRP External Research Program may fund neither, one, or both parts of the collaborative research.

## **VII. Multi-year Project Periods**

The intent of the External Research Program is to eventually fund all acceptable proposals for two years. Beginning in FY 1999 we intend to fund a majority of the acceptable proposals for two years and applicants are strongly encouraged to write their proposals accordingly. However, work that can be completed in one year should only be proposed for one year. The second year funding of a two-year grant is contingent upon the availability of funds and satisfactory progress by the Recipient. Progress will be determined through written technical review of a Progress Report by the Coordinator for External Research or his agent. The progress report shall be submitted by the Recipient, in accordance with grant award Special Terms and Conditions(see paragraph XVI), 60 days prior to the end of the first year of funding.

## **VIII. Renewals**

Ongoing one year projects may be renewed by submitting a renewal proposal for competitive evaluation. The following criteria apply:

- A. The project must have the same title and continues the same line of research supported in the previous year.
- B. The same Principal Investigator continues on the project.
- C. The proposal is submitted by the same Recipient.
- D. The USGS generally considers the support of a longer-term effort to be in the best interest of the Government.

## **IX. Out-of-Cycle Awards**

- A. Research proposals may be accepted and approved out-of-cycle (after the closing date) in cases where there is compelling circumstance or emergency (*e.g.*, seismic event) which must be acted on before the next competitive review cycle.
- B. Congressionally mandated, directed awards to support activities that evaluate Earthquake Hazards and Losses.

## **X. Unsuitable Proposals**

The following proposals are ineligible for consideration under this Announcement:

- A. Proposals for regional seismic monitoring or establishing and maintaining Data Centers.
- B. Proposals from U.S. Government agencies or U.S. Government employees.
- C. Proposals from Federally Funded Research and Development Centers (FFRDC).
- D. Proposals in which there is a real or the appearance of a conflict of interest.
- E. Proposals involving the direct procurement of a product or service.
- F. Proposals having subcontracts for more than 49% of total direct costs.

## XI. Projects Previously Supported by the USGS/NEHRP

Lists of previously supported projects may be obtained from the External Research Program Internet site at <http://erp-web.er.usgs.gov> or USGS Fax-on-Demand Services, EARTHFAX, by dialing from a TouchTone telephone or Fax machine 1 (800) USA-MAPS (872-6277) and choosing item 4 from the voice menu, then following the prompts. In Virginia, call (703) 648-4888. Six Fax-on-Demand documents detail this information, one document for each of the regional/topical panels as follows:

Fax-on Demand Document Numbers	
Regional/Topical Panel	Document Number
Central United States	7094
Northern California	7095
Southern California	7096
Pacific Northwest	7097
National/International	7098
Laboratory, Process and Theory	7099

## XII. Application Preparation Instructions

Applicants shall submit one single-sided binder-clipped, signed original and one single-sided binder-clipped copy plus **9 stapled (double-sided)** copies of the application. Also submit, in addition to the application, seven stapled sets of the NEHRP Proposal Information Summary, Abstract, and Budget Summary (see XII.C., E. and F.) **The application must not exceed 25 single-spaced pages** (including figures, tables, references, appendices, curriculum vitae, etc.), and the type size shall not be smaller than 12 pitch/11 point type. All text, figures, and tables shall be on 8 ½ inch by 11-inch pages. The Assurances, Certifications, and the indirect cost rate agreement shall be submitted with the original only and do not count against the 25-page total. All pages of the application shall be numbered. Do not submit copies of published papers with the application. The application shall be assembled, **precisely**, in the following order:

A. Application for Federal Assistance, Standard Form (SF) 424.

1. Use the SF 424 (Attachment B) as the cover sheet for all applications. The SF 424 must be signed by an authorized representative of the applicant. Common elements of the SF 424 have been completed for your convenience.
2. Enter the two-letter panel designation in the upper right hand block labeled "Applicant Identifier" to the left of the dash in the block. The print shall be in at least ¼-inch high capital letters.

B. Assurances and Certifications. The authorized certifying official of the applicant shall certify Attachments C and D. **Include these forms with the original application only.**

C. Proposal Information Summary. This summary is mandatory in all proposals and shall follow the same format as shown in Attachment F. If you registered your proposal on our Internet site you may include a printed copy of that summary page for the Proposal Information Summary.

D. Table of contents.

- E. Abstract. The abstract shall be no longer than one, single-spaced page. It shall include identification of the problem, a summary of the approach, project objectives, anticipated results, and the implications of the project results.
- F. Proposed budget. The proposed budget shall be presented in two parts, a one page summary (with the format in Attachment E) followed by a detailed budget keyed to the summary sheet. **Place the budget summary, followed by the detailed budget, after the abstract.** Non-federal funds available to support the project may be reflected in the detailed budget or the SF 424 (line 15.b.-c.), as appropriate. The detailed budget must include the amount proposed for each of the following items in this order:
1. Salaries and wages. Identify individuals or categories of salaries and wages, estimated hours or percent of time, and the rate of compensation proposed for each person or category. Include an explanation of the amounts included for projected increases if the rate of pay shown is higher than the current rate of pay. Identify each person with a task in the project. Tuition remission and other forms of compensation paid as, or in lieu of, wages to students performing necessary work are allowable; provided that, the tuition or other payments are reasonable compensation for the work performed and are conditioned explicitly upon the performance of the work.
  2. Fringe benefits/labor overhead. Indicate the rates/amounts in conformance with normal accounting procedures. Explain what costs are covered in this category and the basis of the rate computations. Indicate whether rates are used for proposal purposes only or whether they are also fixed or provisional rates for billing purposes.
  3. Equipment. Show the cost of all special-purpose equipment necessary for achieving the objectives of the project. "Special-purpose equipment" means scientific equipment having a useful life of more than 1 year and having an acquisition cost of \$5,000 or more per item. Each item should be itemized and include a full justification and a dealer or manufacturer quote, if available. General-purpose equipment must be purchased from the applicant's operating funds. Title to non-expendable personal property shall be vested solely with the Recipient. **Under no circumstances shall property title be vested in a sub-tier recipient.**
  4. Supplies. Enter the cost for all tangible property. Include the cost of office, laboratory, computing, and field supplies separately. Provide detail on any specific item which represents a significant portion of the proposed amount. If fabrication of equipment is proposed, list parts and materials required for each and show costs separately from the other items.
  5. Services or consultants. Identify the tasks or problems for which such services would be used. List the contemplated sub-recipients by name (including consultants), the estimated amount of time required, and the quoted rate per day or hour. If known, state whether the consultant's rate is the same as she/he has received for similar services or under Government contracts or assistance awards.
  6. Radiocarbon Age Dating. Do not include radiocarbon age dating in item 5 above. Report it as a separate amount.
  7. Travel. State the purpose of the trip and itemize the estimated travel costs to show the number of trips required, the destinations, the number of people traveling, the per diem rates, the cost of transportation, and any miscellaneous expenses for each trip. Calculations of other special transportation costs (such as charges for use of applicant-owned vehicles or vehicle rental costs) should also be shown.
  8. Publication costs. Show the estimated cost of publishing the results of the research, including the final report. Include costs of drafting or graphics, reproduction, page or illustration charges, and a minimum number of reprints. If not included under direct labor or other direct costs, the cost of manuscript typing shall be included.

9. Other direct costs. Itemize the different types of costs not included elsewhere; such as, shipping, telemetry, computing, equipment-use charges, age dating, or other services. Provide breakdowns showing how the cost was estimated; for example, computer time should show the type of computer, estimated time of use, and the established rates.
10. Total direct costs. Total items 1 through 9.
11. Indirect cost/general and administrative (G&A) cost. Show the proposed rate, cost base, and proposed amount for allowable indirect costs based on the cost principles applicable to the Applicant's organization. If the Applicant has separate rates for recovery of labor overhead and G&A costs, each charge should be shown. Explain the distinction between items included in the two cost pools. The Applicant should propose rates for evaluation purposes which they are also willing to establish as fixed or ceiling rates in any resulting award. A complete copy of the negotiated indirect cost agreement with the Federal Government must be included, or if one has not been issued, an approval of the indirect rate by a certified public accountant.
12. Amount proposed. Total items 9 and 10.
13. Total project cost. Total Federal and non-Federal amounts, if any.
14. Multi-year projects. The Applicant shall provide summary information (see Attachment E) as well as a detailed budget for the second year. The SF 424, however, shall reflect support for the one year only.

**G. Proposal Body:** The proposal body shall consist of the following parts:

1. Significance of the project. Discuss the specific problem addressed and its importance. Include a discussion of the significant contribution the project will make to the NEHRP.
2. Project plan. Discuss the specific hypotheses or research questions, the conceptual framework or model to be used, as well as the data collection and analysis plans, and continuing efforts. Plans should also include procedures to be used to insure objectivity and balance in the project.
3. Final report and dissemination. The U.S. Geological Survey considers dissemination of research data and results to potential users of those results to be an integral and crucial aspect of projects funded by this program. Beyond the requirements for a final report, describe your plan for dissemination of project data and results and the planned users of those results that will result in the greatest possible benefit to earthquake hazards reduction. Describe in detail your plans for dissemination of the project results and indicate the customers to whom the project is directed.
4. Related efforts. Describe significant, related studies conducted by members of the research team and discuss any planned coordination with other workers in the field.
5. Project personnel and bibliography of directly related work. Provide a one-page curriculum vitae for the professional staff, summarizing education, experience, and last five years bibliographic information related to the proposed work.
6. Institutional qualifications. State the resources available at, and the relevant experience of, the institution. Resources include personnel, computer and library facilities, and ties to both sources of data and potential users of the results.
7. Project management plan. Include the time and cost schedule for the proposed work and the time allocations and responsibilities for the project staff members. It should also schedule progress reports.
8. Current support and pending applications. List all sources of support (in addition to the proposed effort) to which the senior research members have committed a portion of their time for the period covered by the proposal. The information should account for 100 percent of the work time of each investigator and



include titles, annual budget levels, period of the awards, and the person-months committed in each case. This section must also list research being considered by, or that will be submitted to, other possible sponsors. This information will not affect the evaluation of the proposal; however, proposals submitted for funding to the Southern California Earthquake Center cannot be submitted to the USGS NEHRP External Research for funding.

9. Continuation projects. List the total amount of funding per year for which support was provided by the USGS, as well as the duration of each increment (including no-cost extensions), and the total number of person months committed by each Principal Investigator each year.

### **XIII. Evaluation of Applications**

- A. Evaluation of proposals is through peer review by a panels of experts who read all the proposals assigned to a panel prior to their meeting and discuss each proposal according to the evaluation criteria. The Panel members are scientists and engineers drawn from Federal, State, local, and regional agencies; universities; non-profit organizations; and private industry. Each criterion (or factor) carries equal weight in the evaluation. The peer review panel's decisions on ranking of proposals is final within each panel.
- B. Proposals pertinent to one of the six NEHRP external program research areas will be evaluated by multi disciplinary peer review panels which will evaluate the technical merit of the proposals and to develop an integrated program of investigations for that region with attention to the program emphasis (see Attachment A). The panels include four regional panels; a panel for national, international and regions other than the four specified regions; and a panel for processes, theory, and laboratory proposals. Investigators shall indicate on their proposal cover sheet (SF 424) which panel is most appropriate for their proposal (Attachment B). The panel designation shall be entered in the upper right hand block labeled "Applicant Identifier" and shall be in at least 1/4-inch high capital letters to the left of the dash in the block. The USGS will revise panel assignments as necessary.

The panels and their designations are as follows:

<b>Designation</b>	<b>Panel Name</b>
SC	Southern California Region
NC	Northern California Region
PN	Pacific Northwest Region
CU	Central United States Region
NI	National, International, and Other Regions
PT	Processes, Theory, and Laboratory

**Note:** Do not submit the same or a similar proposal to more than one panel.

- C. All proposals are considered in accordance with the criteria set forth below:
  1. Relevance and timeliness. This factor considers the relevance and timeliness of the proposed research activities as they relate to the NEHRP program goals, including regional emphasis where appropriate (see Attachment A).
  2. Technical quality of the proposal. This factor considers the scientific merit of the proposed approach and the probability of achieving positive results within the designated period.
  3. Competence and Recent research performance of Principal Investigator(s) and research team. This factor considers experience and competence of the PI and coworkers; and promptness with which the research results were disseminated to the scientific community from previous funding. This factor includes performance records and capability to provide the necessary facilities and support that will insure satisfactory completion of the proposed work. The recent performance aspect is primarily

concerned with the timely publication of project results and data in peer-reviewed scientific or technical journals, the impact of the report, and whether reporting requirements from previous USGS awards have been satisfied.

4. Appropriateness and reasonableness of the budget. This factor considers whether the proposed budget is commensurate with the level of effort needed to accomplish the project objectives and whether the cost of the project is reasonable relative to the value of the anticipated results.
- D. The assembled panels make recommendations and provide advice by ranking proposals into priority groupings, funding levels, and the length of the project. Panels include USGS personnel; where necessary, to provide coordination with internal USGS/ NEHRP elements. The results of the review will assist the USGS in making final award determinations under this Announcement.

#### **XIV. Rejection of Applications After Initial Review**

- A. If a proposal does not meet all requirements specified in the Announcement, as determined by the Contracting Officer in consultation with the Project Officer, the proposal will be promptly returned to the applicant indicating the reason for its return.
- B. A revised proposal will not be accepted unless it is submitted on or prior to the closing time and date for this Announcement (April 7 , 1998, 4:00 pm).

#### **XV. Involvement of Federal Employees**

Federal employees including USGS employees are prohibited from serving in any capacity (paid or unpaid) on any application submitted under this Announcement. Proposals which have a real or apparent conflict of interest will not be processed for evaluation. This does not prohibit cooperation or collaboration between USGS and non-USGS scientists in information exchange and data collection. (See paragraph VI.)

#### **XVI. Award Terms and Conditions**

Award Recipients must comply with grant award Special Terms and Conditions; and General Provisions. The FY 1999 Special Terms and Conditions and General Provisions may be obtained through either the Office of Acquisition and Federal Assistance Internet site (<http://www.usgs.gov/contracts/nehpr/>) or the USGS Fax-on-Demand service, EARTHFAX, by dialing from a TouchTone telephone or Fax machine 1 (800) 872-6277 and choosing item 4 from the voice menu, then following the prompts. In Virginia, call (703) 648-4888. Request document 7093 for Special Terms and Conditions, and General Provisions.

- A. No-cost Extensions to the Project Period: No cost extensions are discouraged. The Earthquake Hazards Program(EHP) awards grants and cooperative agreements for research that extends or supplements the ongoing research within the Geological Survey. The timely conduct of funded projects is of great importance to the achievement of the goals of the EHP. Applicants should consider their time commitments at the time of applying for a grant. Requests for no-cost extensions will be considered on a case-by-case basis. Applicants should supply documentation supporting their request for an extension.
- B. Supplementary Funds: Supplements to the amount awarded are also discouraged. The peer review panels recommend funding at a rate commensurate with their judgement of the scientific merit of a proposal and their expert knowledge of the expenses likely to be incurred in the conduct of the research. The EHRP is aware that the course of any research cannot always be predicted. However the bulk of the funds available in this program are expended early in the fiscal year and little is retained for expenses beyond emergencies or special opportunities. Requests for supplementary funds will be considered on a case-by-case basis. Requests for supplements do not require additional external review if such requests are within the original scope of work. Applicants should supply documentation supporting their request for supplementary funding.

## RESEARCH PRIORITIES FOR FY 1999

The U.S. Geological Survey Earthquake Hazards Reduction Program (USGS-EHRP) sponsors, through its External Research Program (ERP), a wide range of studies applicable to earthquake risk reduction in the United States. Funding decisions in the ERP are made by six regional panels. Each panel evaluates research aimed at the program elements. The program emphasizes certain geographic regions based upon specific earthquake hazards and associated societal risks in them.

The Research Priorities presented here were reviewed and modified from the current FY 1998 priorities with the new Earthquake Hazards Program five year science plan in mind. Full implementation of the new five-year plan will be in fiscal year 2000.

In response to guidance from the United States Congress, USGS-EHRP places high priority on investigations in four areas where large populations are exposed to significant seismic risk: Southern California, Northern California, the Pacific Northwest, and the Central United States. Studies in other earthquake-prone regions of the United States and Japan are also sponsored by the National-International panel. In addition, the Processes, Theoretical, and Laboratory Studies panel supports basic and applied research that can lead to new tools for earthquake hazard reduction nationwide.

Each proposal should be directed to a specific regional peer review panel, as listed below:

- ! **Southern California (SC):** From the Carrizo Plain south to the international border with Mexico
- ! **Northern California (NC):** From Cape Mendocino south to Parkfield, including the San Francisco Bay area
- ! **Pacific Northwest (PN):** Washington, Oregon, and California north of Cape Mendocino (Cascadia) and Alaska
- ! **Central United States (CU):** The New Madrid seismic zone and surrounding areas
- ! **National/International (NI):** All earthquake-prone geographic areas not included in the above four regions
- ! **Processes, Laboratory, and Theoretical (PT):** Basic and applied research that has potential for reducing earthquake hazard in many geographic areas.

Pages 7-9 of this announcement describes the process of proposal evaluation by each regional panel.

Regional coordinators may be able to assist applicants by describing related work within the USGS, identifying existing relevant data sets, and helping applicants establish contacts with USGS researchers working in similar areas. Regional Coordinators are listed on page 8 of this Announcement.

The two program elements described below were identified through USGS and independent external review. Following each element description is a list of Priority Tasks for each regional panel. We emphasize that this listing of Priority Tasks is not intended to discourage submission of proposals to accomplish other important tasks.

### ELEMENT I. Products for Earthquake Loss Reduction

The USGS will produce and demonstrate products that enable the public and private sectors to assess earthquake hazards and implement effective mitigation strategies.

A key contribution of the USGS earthquake program is the series of national probabilistic seismic shaking hazard maps that are produced and updated periodically with new and refined information. These maps have grown out of the research efforts and systematically quantify the seismic shaking hazard for our nation. They are used as

input for policy decisions on building codes and land use. In support of these maps, the USGS will produce accessible GIS databases of active earthquake source zones with up-to-date information on slip rates and recurrence intervals.

For urban areas at high risk from earthquakes, the USGS plans maps and other products to quantify shaking amplification and susceptibility to liquefaction and landslides. These products will be incorporated into the Federal Emergency Management Agency's (FEMA) loss reduction efforts. In response to requests from city planners, earthquake scenarios of large urban earthquakes will be developed for public planning. Synthetic modeling of hypothetical ground motions will be provided to engineers to meet their needs in structural designing.

### **In Southern California**

- ! Compile seismic, geotechnical and geologic data from both surface and from drill-hole observations necessary to predict regional ground motions and develop models to estimate variations in expected ground motions, accounting for bedrock excitation, site effects, duration of shaking, and soil-structure interaction.
- ! Develop and verify methods for calculating time histories of strong ground motion. Produce synthetic time histories for scenario earthquakes in the Los Angeles and San Bernardino regions.
- ! Develop credible planning earthquake scenarios for Los Angeles and San Bernardino regions.
- ! Evaluate capability and effectiveness of realtime damage assessment and warning systems that have been developed for southern California.
- ! Compile and provide access to geotechnical, structures, and seismic databases that will provide useful information for mitigation and emergency response efforts.

### **In Northern California**

- ! Develop quantitative ground motion models and maps that account for site effects, duration of shaking, and directivity for scenario earthquakes in the San Francisco Bay area.
- ! Develop models to explain and quantify the effects of fault interaction with particular emphasis on the earthquake cycle in the San Francisco Bay Area.
- ! Maintain and improve existing fault monitoring networks with downhole strain, geodetic, and creep measurements in northern California.
- ! Develop geotechnical information to model the location and amount of permanent ground deformation expected from Bay Area scenario earthquakes.
- ! Compile and provide access to geotechnical, structural, and seismic databases that will provide useful data for developing mitigation techniques and planning emergency response efforts.

### **In the Central United States**

- ! Develop models to explain the genesis of large earthquakes in plate interiors in general and in the New Madrid seismic zone in particular.
- ! Compile existing data to prepare 1:250,000-scale earthquake hazard maps for the New Madrid seismic zone.
- ! In the Central United States, collaborate with the USGS, working groups, professional organizations, and regional consortia to develop the most effective means to communicate seismic hazard issues and to better determine the needs of user groups.

### **In the Pacific Northwest**

- ! Model the effect of the sedimentary basins in the Portland and Puget Sound metropolitan areas on strong ground motions expected from subduction-zone, crustal, and Benioff zone earthquakes.
- ! Develop models to explain the interaction between the subducting Juan de Fuca plate and North America plate in the Pacific Northwest.

- ! Extend the capabilities of the real-time seismic systems in Alaska and Cascadia to improve the integration of strong ground motion and broad-band data into the rapid delivery of earthquake information to the National Seismic System.
- ! Compile and provide the ability to electronically access geotechnical, building characteristics, or seismic databases for use in earthquake mitigation, response, or recovery planning.

### **In Other Regions of the United States and International**

- ! Compile new and upgrade existing data that provide input information for seismic hazard maps. Examples of the types of data include moment-magnitude-based earthquake catalogs from regional network data and historical information for earthquakes of magnitude 4 and greater in western North America and magnitude 3 and greater in central and eastern North America, information on the location and characteristics of active faults, and regional or local information on attenuation properties or ground-motion amplification that would impact hazard assessments.
- ! Identify the range of geological and geotechnical conditions present in the Boston metropolitan area and their effect on potential variations in strong ground shaking. These data will be used to evaluate the appropriateness of large scale seismic hazards mapping in the Boston area.
- ! Develop improved regionally specific ground-motion attenuation relations in the central and eastern USA.
- ! Determine recurrence intervals, slip rates, and segmentation characteristics and uncertainties of poorly studied active faults that directly affect the hazard in highly populated urban areas.
- ! In consultation with USGS geodesists studying crustal deformation, develop a prototype geodetic database designed to quantify neotectonic deformation at a national scale.

### **In Processes, Theoretical, and Laboratory Studies**

- ! Develop criteria for basin selection and a methodology for modeling 3-D earthquake wave propagation in sedimentary basins. Test the methodology in well-characterized basins.

## **ELEMENT II. Research on Earthquake Occurrence and Effects**

The USGS will pursue earthquake research to understand earthquake occurrence and effects for the purpose of developing and improving hazard assessment methods and loss reduction methodologies.

Because all of the current USGS products of the earthquake program have developed from its research efforts, the USGS will continue a major focus on understanding earthquake occurrence in space and time. The physical conditions for earthquake rupture initiation and growth need to be elucidated with field measurements in fault zones and modeling of seismicity, crustal deformation, and other earth science data. Additional areas of interest include earthquake triggering, fault interactions, and the role of aseismic slip in relieving the buildup of crustal strain. Understanding in these areas will lead to better estimates of the long-term seismic hazards to our country. To address short-term seismic hazard evaluations, work on earthquake statistics and evaluations of stress fields associated with large earthquakes may facilitate estimates of likelihood and location of future earthquakes.

Reducing future earthquake losses depends on an understanding of the damaging effects of earthquakes. Using data from our regional seismic networks, research in this area will address how complexities in the earthquake source, wave propagation effects, and near-surface geological deposits control the strong shaking. Studies will also investigate the factors that govern susceptibility to ground failure from landsliding, liquefaction, and lateral spreading.

### **In Southern California**

- ! Investigate Quaternary faulting and develop regional models of active deformation.
- ! Use waveform data to determine earthquake source parameters and crustal structure.

- ! Develop and verify methods for calculating time histories of strong ground motion.
- ! Characterize the behavior of active faults segments and clarify differences between seismic and aseismic processes. The Los Angeles, Ventura, and San Bernardino basins are of particular interest.
- ! Conduct geodetic and modeling studies in the Los Angeles, Ventura, and San Bernardino basins. Evaluate the consistency between geodetic and seismic slip rates.

### **In Northern California**

- ! Determine paleoearthquake chronologies and refine slip-rate and recurrence estimates and evaluate segmentation models for major faults of the San Andreas system, in the following priority: San Andreas, Hayward-Calaveras, Concord-Green Valley, Rodgers Creek, Greenville,, Mayacama, and San Gregorio faults.
- ! Use waveform data to define the 3-dimensional structure of the crust.
- ! Characterize the extent, structure, geometry, and stratigraphy of basins in the San Francisco Bay region, with particular emphasis on the Santa Clara valley
- ! Determine the geometry, location, and rate of deformation on fold and thrust-fault structures in the San Francisco Bay Area and quantify the rates of compressional deformation associated with surface and blind thrust faults.

### **In the Central United States**

- ! Determine rates and character of active crustal deformation in seismogenic areas by assessing old and collecting new geodetic data at both local and regional scales. Synthesize the data to improve the understanding of the tectonic setting of regional seismicity. Evaluate GPS monument stability and noise levels in unconsolidated sediments of the Mississippi Valley region.
- ! Conduct investigations to determine spatial and temporal characteristics of prehistoric earthquakes. Expand the regional coverage of such investigations beyond the area of current microseismicity in the northern Mississippi embayment to locate other possible source zones.
- ! Identify the range of geological and geotechnical conditions present in the Memphis metropolitan area and their affect on potential variations in strong ground shaking. These data will be used to evaluate the appropriateness of large scale hazard mapping in the Memphis area.

### **In the Pacific Northwest**

- ! Conduct field investigations for evidence of ground shaking or displacement associated with the possibility of late Holocene crustal earthquakes throughout the Puget Sound region.
- ! Conduct cooperative seismic imaging experiments to compliment the recording and/or analysis of the land portion of the USGS experiment Seismic Hazards Investigations in Puget Sound (SHIPS).
- ! Develop models that examine the effect of the long durations expected from subduction zone events on predicted ground motions.
- ! Conduct field investigations and develop models using existing observations necessary to understand crustal deformation in Cascadia. Proposed measurements in Cascadia must be integrated into a single a regional crustal deformation strategy.
- ! Identify and characterize active tectonic structures in the Portland and/or Seattle metropolitan area.
- ! Conduct field investigations for evidence of late Holocene ground shaking or displacement in the greater Anchorage area associated with past subduction zone, crustal, and Benioff zone events.
- ! Study the relations between the subduction tectonic framework and the distribution of crustal seismicity in the southern Alaska region.

### **In Other Regions of the United States and International**

- ! Develop regionally specific ground-motion time histories and validate against observed ground-motion records. Devise methods of making these time histories available to the earthquake hazard community.

- ! Conduct Quaternary geologic, geomorphic, and paleoseismic investigations (including paleoliquefaction studies) and companion geophysical surveys to determine the spatial and temporal distribution of prehistoric earthquakes in earthquake-prone parts of the U.S. and U.S. Territories in the Caribbean region.
- ! Use inferred ground-motion from detailed damage data to determine which ground-motion parameters are correlated best with building performance in order to determine alternative parameters for the National Seismic Hazard maps.
- ! Identify the range of geological and geotechnical conditions present in the Boston metropolitan area and their effect on potential variations in strong ground shaking. These data will be used to evaluate the appropriateness of large-scale seismic hazards mapping in the Boston area..

### **In Processes, Theoretical, and Laboratory Studies**

- ! Conduct field studies of active and exhumed fault zones to gain knowledge of stresses, fluid pressure, temperature, pore fluid chemistry, and internal fault zone structures of earthquake rupture zones.
- ! Conduct laboratory studies to determine the mechanical and physico-chemical behavior of rocks and fault gouge under pressures and temperatures expected at seismogenic depths.
- ! Collect and interpret data documenting aseismic fault slip processes.
- ! Develop and test guidelines for interpreting fault stepovers, geometric irregularities and material property contrasts as delimiters of earthquake source zones in a range of tectonic environments.
- ! Implement conceptual and theoretical models of the earthquake process as computer software that can simulate both quasistatic and spontaneous seismic slip on major strike-slip or dip-slip faults at a regional scale. Test simulations using field and laboratory data and identify additional data that would constrain simulation parameters. Investigators should propose documented software as a product and build on existing software when possible.
- ! Formulate and test hypotheses on the initiation, propagation, and arrest of seismic rupture and their implications for earthquake source effects on strong ground motion.
- ! Determine the physical mechanisms linking foreshocks to mainshocks, with long-term goals of more accurately calculating foreshock probabilities and developing public warning capability based on the identification of foreshocks.
- ! Design and carry out field investigations to measure stress, fluid pressure, or other changes which may be critical in post-earthquake stress transfer or help distinguish foreshocks from isolated moderate earthquakes.
- ! Improve estimates of long-term earthquake probabilities, especially by quantifying and determining physical reasons for the variability of recurrence times on identified fault segments.
- ! Investigate whether high strain rates measured using geodetic techniques such as GPS indicate enhanced potential for damaging earthquakes in any part of the United States.
- ! Determine the mechanisms by which significant earthquakes modify background seismicity in their immediate vicinities and trigger earthquakes at large distances, with the goal of issuing rapid public assessments of earthquake threat modification following major earthquakes.
- ! Test assumptions about earthquake recurrence used to construct the National Probabilistic Hazard Maps.
- ! Collect field data and conduct laboratory experiments to improve our fundamental understanding of the processes leading to liquefaction, lateral spreading, and slope failure during earthquakes.
- ! Analyze existing data to examine the response of structures, to identify the parameters of ground motion that control damage to structures, and investigate soil structure interaction
- ! Continue the focused fault-monitoring effort at Parkfield, California.
- ! Monitor deformation, fluid pressure, or electrical and magnetic fields to attempt recording of signals that could be earthquake precursors, and conduct field, laboratory, and theoretical investigations into the mechanisms of such precursors. **Note:** Proposals to study electrical and/or magnetic effects must address the goals published in "U.S. Geological Survey Plans and Goals for Earthquake-Related Electromagnetic Studies" (U.S. Geological Survey Open-File Report 96-71) which may be obtained from the External Research Program Office.

# APPLICATION FOR FEDERAL ASSISTANCE

<b>1. TYPE OF SUBMISSION:</b> <i>Application</i> <input type="checkbox"/> Construction  <input type="checkbox"/> Non-Construction		<b>2. DATE SUBMITTED</b>		Applicant Identifier	
		<b>3. DATE RECEIVED BY STATE</b>		State Application Identifier	
<i>Preapplication</i> <input type="checkbox"/> Construction  <input type="checkbox"/> Non-Construction		<b>4. DATE RECEIVED BY FEDERAL AGENCY</b>		Federal Identifier	
<b>5. APPLICANT INFORMATION</b>					
Legal Name:			Organizational Unit:		
Address (give city, county, state, and zip code):			Name and telephone number of the person to be contacted on matters involving this application (give area code)		
<b>6. EMPLOYER IDENTIFICATION NUMBER (EIN):</b> <div style="border: 1px solid black; width: 100px; height: 20px; margin: 5px 0;"></div>			<b>7. TYPE OF APPLICANT:</b> (enter appropriate letter in box) <input type="checkbox"/> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">           A. State B. County C. Municipal D. Township E. Interstate F. Intermunicipal G. Special District         </div> <div style="width: 45%;">           H. Independent School Dist. I. State Controlled Institution of Higher Learning J. Private University K. Indian Tribe L. Individual M. Profit Organization N. Other (Specify): _____         </div> </div>		
<b>8. TYPE OF APPLICATION:</b>  <div style="display: flex; justify-content: space-around;"> <input type="checkbox"/> New           <input type="checkbox"/> Continuation           <input type="checkbox"/> Revision         </div> If Revision, enter appropriate letter(s) in box(es): <input type="checkbox"/> <input type="checkbox"/> A. Increase Award    B. Decrease Award    C. Increase Duration D. Decrease Duration    Other (specify) _____			<b>9. NAME OF FEDERAL AGENCY:</b>		
<b>10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER:</b>  TITLE:			<b>11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:</b>		
<b>12. AREAS AFFECTED BY PROJECT</b> (cities, counties, states, etc.):					
<b>13. PROPOSED PROJECT:</b> <div style="display: flex;"> <div style="flex: 1;">Start Date</div> <div style="flex: 1;">Ending Date</div> </div>		<b>14. CONGRESSIONAL DISTRICTS OF:</b> <div style="display: flex;"> <div style="flex: 1;">a. Applicant</div> <div style="flex: 1;">b. Project</div> </div>			
<b>15. ESTIMATED FUNDING:</b>		<b>16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?</b>			
a. Federal	\$ .00	a. YES, THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON:  DATE _____  b. NO <input type="checkbox"/> PROGRAM IS NOT COVERED BY E.O. 12372  <input type="checkbox"/> OR PROGRAM HAS NOT BEEN SELECTED STATE FOR REVIEW			
b. Applicant	\$ .00				
c. State	\$ .00				
d. Local	\$ .00				
e. Other	\$ .00				
f. Program Income	\$ .00	<b>17. IS APPLICATION DELINQUENT ON ANY FEDERAL DEBT?</b> <input type="checkbox"/> YES    If "Yes," attach an explanation. <input type="checkbox"/> No			
g. TOTAL	\$ .00				
<b>18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT, THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED</b>					
<b>a. Typed Name of Authorized Representative</b>			<b>b. Title</b>		<b>c. Telephone number</b>
<b>d. Signature of Authorized Representative</b>			<b>e. Date Signed</b>		



## INSTRUCTIONS FOR THE SF 424

This is a standard form used by applicants as a required facesheet for preapplications and applications submitted for Federal assistance. It will be used by Federal agencies to obtain applicant certification that States which have established a review and comment procedure in response to Executive Order 12372 and have selected the program to be included in their process, have been given an opportunity to review the applicant's submission.

- | Item:   | Entry: | Item:  | Entry: |
|---|--------|--|--------|
| 1. Self-explanatory.  |        | 12. List only the largest political entities affected (e.g., State, counties, cities).   |        |
| 2. Date application submitted to Federal agency (or State if applicable) & applicant's control number (if applicable).  |        | 13. Self-explanatory   |        |
| 3. State use only (if applicable).  |        | 14. List the applicant's Congressional District and District(s) affected by the program or project.  |        |
| 4. If this application is to continue or revise an existing award, enter present Federal identifier number. If for a new project, leave blank.  |        | 15. Amount requested or to be contributed during the first funding/budget period by each contributor. Value of in-kind contributions should be included on appropriate lines as applicable. If the action will result in a dollar change to an existing award, indicate <u>only</u> the amount of the change. For decreases, enclose the amounts in parentheses. If both basic and supplemental amounts are included, show breakdown on an attached sheet. For multiple program funding, use totals and show breakdown using same categories as item 15. |        |
| 5. Legal name of applicant, name of primary organizational unit which will undertake the assistance activity, complete address of the applicant, and name and telephone number of the person to contact on matters related to this application.   |        | 16. Applicants should contact the State Single Point of Contact (SPOC) for Federal Executive Order 12372 to determine whether the application is subject to the State intergovernmental review process.  |        |
| 6. Enter Employer Identification Number (EIN) as assigned by Internal Revenue Service.  |        | 17. This question applies to the applicant organization, not the person who signs as the authorized representative. Categories of debt include delinquent audit disallowances, loans and taxes.  |        |
| 7. Enter the appropriate letter in the space provided.  |        | 18. To be signed by the authorized representative of the applicant. A copy of the governing body's authorization for you to sign this application as official representative must be on file in the applicant's office. (Certain Federal agencies may require that this authorization be submitted as part of the application.)  |        |
| 8. Check appropriate box and enter appropriate letter(s) in the space(s) provided:<br><ul style="list-style-type: none"> <li>- "New" means a new assistance award.</li> <li>- "Continuation" means an extension for an additional funding/budget period for a project with a projected completion date.</li> <li>- "Revision" means any change in the Federal Government's financial obligation or contingent liability from an existing obligation.</li> </ul> |        |  |        |
| 9. Name of Federal agency from which assistance is being requested with this application.   |        |  |        |
| 10. Use the Catalog of Federal Domestic Assistance number and title of the program under which assistance is requested.   |        |  |        |
| 11. Enter a brief descriptive title of the project. If more than one program is involved, you should append an explanation on a separate sheet. If appropriate (e.g., construction or real property projects), attach a map showing project location. For preapplications, use a separate sheet to provide a summary description of this project.   |        |  |        |

**U.S. DEPARTMENT OF THE INTERIOR  
CERTIFICATIONS FOR FEDERAL ASSISTANCE**

**PART A: Certifications Regarding Debarment, Suspension and Other Responsibility Matters - Primary Covered Transactions.** Applies to all grantees and cooperators.

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 43 CFR Part 12, Section 12.510, Participants' responsibilities. The regulations were published as Part VII of the May 25, 1988 Federal Register (pages 19160-19211). For further assistance in obtaining a copy of the regulations, contact the issuing office.

(a) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals: (1) are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency; (2) have not within a 3-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property; (3) are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and (4) have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(b) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

The prospective primary participant further agrees by submitting this proposal that it will include the following clause, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions (see Appendix A of Subpart D of 43 CFR Part 12):

**PART B: Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions.**

(a) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

(b) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

**PART C: Certification Regarding Drug-Free Workplace.** Alternate I. Applies to grantees other than individuals.

This certification is required by the regulations implementing the drug-free workplace requirements for Federal grant recipients under the Drug-Free Workplace Act of 1988 (43 CFR Part 12, Subpart D). A copy of the regulation is available from the issuing office.

A. The grantee certifies that it will or continue to provide a drug-free workplace by:

(a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition; (b) Establishing an on-going drug-free awareness program to inform employees about (1) the dangers of drug abuse in the workplace; (2) the grantee's policy of maintaining a drug-free workplace; (3) any available drug counseling, rehabilitation, and employee assistance programs; and (4) the penalties that may be imposed upon employee for drug abuse violations occurring in the workplace;

(c) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);

(d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will (1) abide by the terms of the statement; and (2) notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction;

(e) Notifying the agency, in writing, within ten calendar days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title, to every grant officer or other designee on whose grant activity the convicted employee was working, unless the Federal agency has designated a central point for the receipt of such notices. Notice shall include the identification number(s) of each affected grant;

(f) Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted: (1) taking appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; or (2) requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;

(g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a), (b), (c), (d), (e) and (f).

B. The grantee may insert in the space provided below the site(s) for the performance of work done in connection with the specific grant;

Place of Performance (Street address, city, county, state, zip code)

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Check ☐ if there are workplaces on file that are not identified here.

PART D: Certification Regarding Drug-Free Workplace. Alternate II. Applies to grantees who are individuals.

This certification is required by the regulations implementing the drug-free workplace requirements for Federal grant recipients under the Drug-Free Workplace Act of 1988 (43 CFR Part 12, Subpart D). A copy of the regulation is available from the issuing office.

(a) The grantee certifies that, as a condition of the grant, he or she will not engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance in conducting any activity with the grant;

(b) If convicted of a criminal drug offense resulting from a violation occurring during the conduct of any grant activity, he or she will report the conviction, in writing, within 10 calendar days of the conviction, to the grant officer or other designee, unless the Federal agency designates a central point for the receipt of such notices. When notice is made to such a central point, it shall include the identification number(s) of each affected grant.

Part E: Certification Regarding Lobbying - Certification for Contracts, Grants, Loans, and Cooperative Agreements. Applies to recipients of awards exceeding \$100,000.

This certification is required by Section 1352, title 31, U.S. Code, entitled "Limitation on use of appropriated funds to influence certain Federal contracting and financial transactions."

**The undersigned certifies, to the best of his or her knowledge and belief, that:**

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

As the authorized certifying official, I hereby certify that the above specified certifications are true.

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Signature

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Typed name and title

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Applicant/Recipient

## ASSURANCES -- NON-CONSTRUCTION PROGRAMS

**Note:** Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States, and if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standard or agency directives.
3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§ 4728-4763) relating to prescribed standards for merit systems for programs funded under one of the nineteen statutes or regulations specified in Appendix A of OPM's Standard for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§ 1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§ 6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§ 523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. 290 dd-3 and 290 ee-3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§ 3601 et seq.), as amended, relating to non-discrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.
7. Will comply, or has already complied, with the requirements of Title II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
8. Will comply with the provisions of the Hatch Act (5 U.S.C. §§ 1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.
9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§ 276a to 276a-7), the Copeland Act (40 U.S.C. § 276c and 18 U.S.C. § 874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§ 327- 333), regarding labor standards for federally assisted construction subagreements.

10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetland pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§ 1451 et seq.); (f) conformity of Federal actions to State (Clear Air) Implementation Plans under Section 176(c) of the Clear Air Act of 1955, as amended (42 U.S.C. §§ 7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended, (P.L. 93-523); and (h) protection of endangered species under the Endangered Species Act of 1973, as amended, (P.L. 93-205).
12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§ 1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. § 470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§ 469a-1 et seq.).
14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.
15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. §§ 2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.
16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§ 4801 et seq.) which prohibits the use of lead based paint in construction or rehabilitation of residence structures.
17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act of 1984.
18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations and policies governing this program.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	TITLE	
APPLICANT ORGANIZATION		DATE SUBMITTED

**BUDGET SUMMARY <sup>1</sup>**

Project Title: \_\_\_\_\_  
 \_\_\_\_\_

Principal Investigator(s): \_\_\_\_\_

Proposed Start Date: \_\_\_\_\_ Proposed Completion Date: \_\_\_\_\_

Proposed Completion Date \_\_\_\_\_

<b>COST CATEGORY</b>	<b>Federal First Year</b>	<b>Federal Second Year<sup>2</sup></b>	<b>TOTAL Both years<sup>2</sup></b>
1. Salaries and Wages	\$	\$	\$
<b>Total Salaries and Wages</b>	\$	\$	
2. Fringe Benefits/Labor Overhead	\$	\$	\$
3. Equipment	\$	\$	\$
4. Supplies	\$	\$	\$
5. Services or Consultants	\$	\$	\$
6. Radiocarbon Dating Services	\$	\$	\$
7. Travel	\$	\$	\$
8. Publication Costs	\$	\$	\$
9. Other Direct Costs	\$	\$	\$
<b>10. Total Direct Costs (items 1-8)</b>	\$	\$	\$
11. Indirect cost/General and Administrative (G&A) cost	\$	\$	\$
12. Amount Proposed (items 9 & 10)	\$	\$	\$
13. Total Project Cost (Total of Federal and non-Federal amounts)	\$	\$	\$

<sup>1</sup> This form shows the format of the budget summary. Use this sheet for the Budget Summary which precedes the detailed budget. The detailed budget must be keyed directly to the Budget Summary page.

<sup>2</sup> These Columns only for multi-year projects

## PROPOSAL INFORMATION SUMMARY

**If you preregistered your proposal at our Internet site before sending it, do not include this summary with your proposal. If you did NOT preregister your proposal, you must submit this summary with your proposal. Use the format below to provide the information in the order requested. Do not type on this page.**

1. Regional Panel Destination: (Use two letter code, see XIII.B)
2. Project Title: If a collaborative proposal, the title of the proposal must appear as follows: ***"Title of Proposal: Collaborative Research with First Institution Name, and Second Institution Name"***.
3. Principal Investigator(s): (Name)  
(Institute/Organization Name)  
(Street Address/P.O. Box)  
(City, State, Zip Code)  
  
(Telephone Number), (FAX Number), (E-mail Address)
4. Authorized Institutional Representative: (Name)(Institute/Organization Name)  
(Organizational Unit)  
(Street Address/P.O. Box)  
(City, State, Zip Code)  
  
(Telephone Number), (FAX Number), (E-mail Address)
6. Element Designation (See Attachment A)
7. Key Words (Use only those provided in Attachment G )  
**(Choose only the four most pertinent)**
8. Amount Requested: (List amount requested for Fiscal Year 1999 support)  
(Two year projects list requests for FY 1999 and 2000)
9. Proposed Start Date: (The date you would like to start work)
10. Proposed Duration: (12 or 24 months, No awards are issued for less than 12 months)
11. New or Renewal Proposal;  
Proposal is a continuation of: (If a renewal, indicate current USGS award number) and  
(Title of Prior Year Proposal) **RENEWALS MUST RETAIN THE SAME TITLE AS THE PRIOR YEAR**
12. Active Earthquake-related Research Grants, and Level of Support: (List project title and funding source for all active awards)
13. Has this proposal been submitted to any other agency for funding, if so, which? (List name of agency, and program or division to which this proposal was submitted)
14. Proposal Abstract (From this proposal on separate sheet)
15. Proposal Budget Summary (From this proposal on a separate sheet)

## Key Words for USGS/NEHRP Proposals

Key Words are to be entered on the NEHRP Proposal Information Summary (Attachment F)

**Choose up to 4 of the most pertinent key words only from this list.**

### Geology

- Neotectonics
- Regional modeling
- Trench Investigations
- Fault Segmentation
- Quaternary Fault Behavior
- Paleoseismology
  - Recurrence interval
  - Rupture characteristics
  - Tsunami
- Tectonic Geomorphology
- Surface Deformation
- Paleoliquefaction
- Geologic Mapping
  - Surficial Deposits
  - Tectonic Structures
- Age Dating
- Slope Failures (includes landslides)

### Geophysics

- Seismology
  - Wave Propagation
  - Strong ground motion
  - Source characteristics
  - Engineering seismology
  - Seismotectonics
  - Reflection Seismology
- Tectonophysics
  - Thermophysical Modeling
  - Fault dynamics
  - Fault stress interactions
  - Laboratory studies
  - Borehole geophysics
- Geodesy
  - GPS-Continuous
  - GPS-Campaign
  - Leveling
  - Strain Measurements
  - Creep Measurements

### Hazards and Engineering

- Structural
  - Building response
  - Soil-structure interaction
- Geotechnical
  - Liquefaction
  - Site effects
- Probabilistic Seismic Hazards
- Regional Seismic Hazards
- Strong ground motion
  - Amplification
  - Seismic zonation
- Building Codes

### Socio-Economic

- Earthquake effects
- Earthquake forecasting
- Loss estimation
- Earthquake probabilities
- Earthquake scenarios
- Mitigation
- Planning
  - Emergency preparedness
  - Recovery and reconstruction
  - Land use
- Policy

### Outreach and Education

- Education-professional
- Education-lay
- Information transfer
- Real-time earthquake information
- Database



## APPLICATION CHECKLIST

1. Is one **original single sided** application signed, unbound and binder clipped?
2. Is one **single sided** copy of the application unbound and binder-clipped?
3. Are **9 additional double sided** stapled copies of this application enclosed? (See paragraph XII.)
4. Is the original copy of the SF 424 signed by an authorized representative of the applicant? (See paragraph XII.A.1.)
5. Is the following information entered properly on form SF 424?
  1. Region ID in the Applicant Identifier box to the left of the dash and proposal number to the right of the dash if you registered your proposal, before sending it, through our Internet site at **<http://www.usgs.gov/contracts/neherp/>**.
  2. Title in box 11. If this is a collaborative proposal, is it clearly identified as such in the title? The correct format is: *Proposal Title: Collaborative Research (Names of Institutions Involved)*.
6. Are the original copies of the Certifications signed by an authorized representative of the applicant and included with the original application only? (see paragraph XII.B.)
7. Have you limited the length of your application to 25 pages? (See paragraph XII.)
8. Is your application assembled in the proper order with pages numbered? (See paragraph XII.)
9. Is one copy of your organization's indirect cost rate agreement included with the **original** application only? (See paragraph XII.F.10.)
10. Are continuation proposals submitted for renewal identified? (See Attachment F, line 10)
11. Are 7 copies of the NEHRP Proposal Information Summary (Attachment F), with the Abstract, and 1 page Budget Summary (Attachment E) included separately? **If you registered your proposal through our Internet site, you have already fulfilled this requirement and should not include these.** However the Proposal Information Summary must be included in your proposal. If you registered your proposal on our Internet site you may include a printout of the registration page.
12. Are the proposals of all participants on a collaborative project enclosed in one package?

## QUESTIONS?

## For Technical issues:

Call or Email: USGS External Research Program  
 703-648-6723 or 703-648-6724  
 FAX: 703-648-6642  
 erp@usgs.gov

## For Administrative issues:

Call: Brian Heath, Contracting Officer  
 703-648-7362  
 FAX: 703-648-7901